

# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

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# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

## ◆ Problems

- ◆ Excess Phosphorous Loading
- ◆ Increasing Heating Fuel Costs

# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

## ◆ Partners

- ◆ Southwest Missouri RC&D Council
- ◆ USEPA, 319 Grants Program
- ◆ Two Broiler Growers and One Turkey Grower
- ◆ Missouri Department of Natural Resources

# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

## ◆ Purpose

- ◆ Operability
- ◆ Economics
- ◆ Fossil Fuel Displacement
- ◆ Poultry Production Impacts

# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

## ◆ Litter

- ◆ Bans on Land Application
- ◆ Different Bedding Materials
- ◆ Different Management Activities
- ◆ Result in a Variety of Materials









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## ◆ Fossil Fuel Costs

- ◆ Main Expense to Growers
- ◆ Propane: \$1.15 (4/04) \$1.28 (1 and 2/04) MO
- ◆ Natural Gas: '02 - \$6.00, '03 - \$8.00 (Indus.)
- ◆ Brooder and General Heating Needed







AAA Associates Niles, MI

Brood-N

# BROOD-MASTER HEATER

PLEASE READ YOUR INSTRUCTIONS

## OPERATION

1. TURN ON GAS
2. TURN ON POWER
3. SET BURNER CONTROL FOR HIGH BURNER
4. SET THERMOSTAT
5. SET GAS PRESSURE
6. SET GAS VALVE
7. SET GAS VALVE
8. SET GAS VALVE
9. SET GAS VALVE
10. SET GAS VALVE

1. SHUT GAS OFF AT TIME
2. SHUT POWER OFF
3. COVER HEATER

- ## NOTES
1. DO NOT BURNER
  2. DO NOT BURNER
  3. DO NOT BURNER
  4. DO NOT BURNER
  5. DO NOT BURNER
  6. DO NOT BURNER
  7. DO NOT BURNER
  8. DO NOT BURNER
  9. DO NOT BURNER
  10. DO NOT BURNER

ON/OFF

ON/OFF

SET GAS PRESSURE

SET GAS PRESSURE

SET GAS PRESSURE

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# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

- ◆ **Chose ABC Model 5000-L Burner**
- ◆ Over Two Years in Development
- ◆ \$19,500 for All Equipment and Controls
- ◆ \$25,700 Installed in Building and Running
- ◆ Needs No Fuel other than Litter







# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

## ◆ What We Are Measuring

- ◆ Humidity
- ◆ Ammonia
- ◆ Dust
- ◆ Temperature

# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

## ◆ What We Are Measuring

- ◆ Electricity Use
- ◆ Propane Use
- ◆ Bird Health and Grade
- ◆ Operational Issues









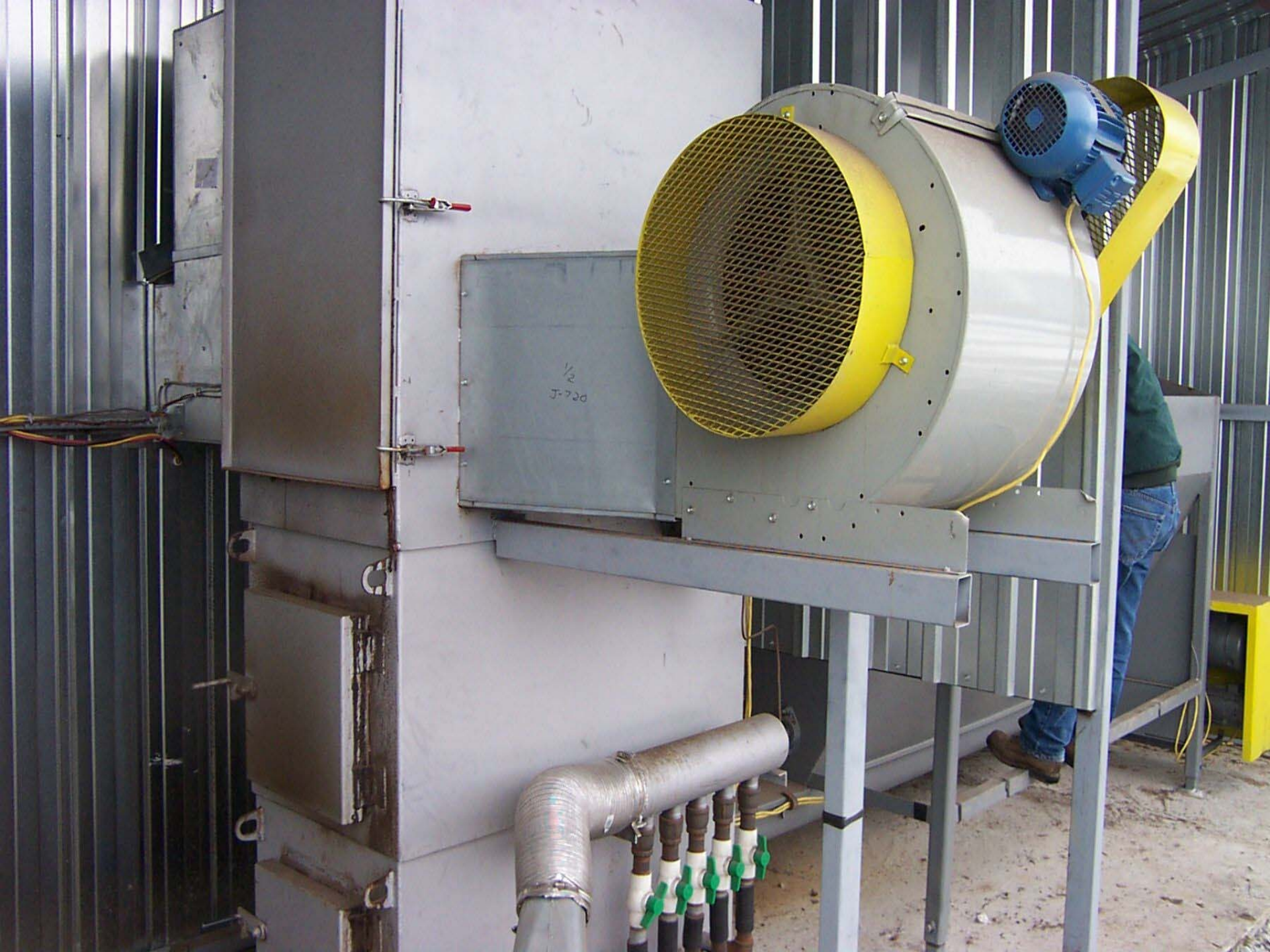


**WARNING**  
ROTATING PARTS BEHIND  
THIS GUARD  
SHUT OFF ELECTRICAL POWER  
AND LOCK OUT ALL POWER TO  
STOP BEFORE REMOVING GUARD

































# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

## ◆ What's Next

- ◆ Install Instruments and Monitor
- ◆ Hold Field Days - RC&D
- ◆ Analyze Data and Prepare Reports
- ◆ Other Studies



# Demonstrating an On-Farm, Litter-Fueled Poultry House Heater

## ◆ What's Next

- ◆ Ash Marketing
- ◆ Value Added > 10 Times Through Retail
- ◆ Infrastructure for Ash Sales

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## QUESTIONS?

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